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Research Article

The effect of repetitive intensity training on developing muscular strength for lifters in Clean and jerk in weightlifting for young

Assist. Lecturer. Salih Mahdi Mukheef
Faculty of Physical Education and Sports Sciences / University of Bagdad, Iraq.
Email: Saleh.Mahdi@cope.uobaghdad.edu.iq

Abstract:
The purpose of this paper is to preparing exercises of constant intensity in developing muscle strength for lifters in Clean and jerk by lifting weights for young people, and the researcher used the experimental method with the pre and post-test for the experimental and control groups. The research sample was conducted in a comprehensive inventory method, and the sample was divided into two groups, the experimental group and the control group, with (6) quarters for each group. In addition, researcher used the SPSS statistical bag to process the data and get the results, including the researcher reached the most important conclusion that frequent intensity exercises have a positive impact on developing muscle strength for lifters in Clean and Jerk by lifting weights for young.

Keywords: repetitive intensity training, muscular strength, clean and jerk with weight lifting.

Introduction:

The process of training in sports is one of the processes that requires following the scientific methods specific to the stages of preparation for athletes, and that the success of the training process depends on the ability of coaches and their consideration of the individual characteristics of the athletes and the selection of the best training methods and the best stages of the time division of the numbers of athletes, as it is very important when preparing training programs to choose the methods The appropriate means and methods for each stage of training, as well as the selection of exercises that must be appropriate to the ability and energy of the athlete. Weightlifting is one of the games that is directly affected by muscular strength as a basis for the development of athletic achievement. For this reason, muscular strength for the sport of weightlifting is of particular importance in the training process. The lifter has turned into a great strength to implement this lift, hence the importance of research in knowing the effect of frequent intensity exercises in developing the muscular strength of lifters in lifting the net by lifting weights for young people, it will be a work guide for trainers and specialists in training young people in the sport of weightlifting and preparing them physically to perform this lift and that the process of reaching To this level requires finding a training program that connects the athlete who depends on the development of muscular strength by using frequent intensity exercises leading to the so-called fatigue limit to the best level and the best achievement.

Research problem:

Muscular strength is one of the important elements of physical fitness, as it occupies a large part of the sports training program, and weightlifting is one of the sports in which muscular strength takes a prominent role and has a direct impact on the achievements of lifters, and through the follow-up of the academic and technical researcher in the field of lifting game Weight There is a decline in the level of muscular strength in terms of the physical aspect and it was not given sufficient importance to develop strength with the effort exerted, so the researcher considered preparing frequent intensity exercises through many repetitions up to exhaustion of effort to develop muscular strength and any type of it, in order to prepare the individual athlete comprehensive numbers to reach to athletic achievement.

Research objective:

- Preparing exercises of repetitive intensity in developing muscle strength for lifters in Clean and Jerk by lifting weights for youth.
- Knowing acquainted with exercises of repetitive intensity in developing muscular strength for lifters in Clean and Jerk by lifting weights for youth.

Research hypotheses:

Repetitive intensity training had a positive effect on developing muscle strength for lifters in Clean and Jerk by lifting weights for youth

Research fields:

- Human field: Young weightlifters in the Kadhimiya Sports Club for the 2021 season
- Time field: (5/6/2021) to (10/8/2021)
- Spatial field: Sports Hall of Al-Kadhimiya Sports Club / Baghdad Governorate

Research methodology and field procedures:

Research Methodology:

The researcher used the experimental method with the pre and post-test of the experimental group and the control group to suit the nature of the research.

Community and sample research:

The research community was identified as the young weightlifters in the Kadhimiya Sports Club for the season 2021, which numbered (12) quads, and the sample was divided into two groups, the experimental group and the control group, with (6) quarters for each group.

Homogeneity and equivalence procedures were carried out for the sample, and the results were as shown in Table (1).

Table (1) shows the homogeneity of the sample

Variables	Measuring unit	Mean	Median	Std. Deviations	Skew ness
Length	Cm	176.01	174	3.231	0.654
Weight	Kg	74.76	72.41	4.376	0.511
Age	Year	18.54	20	5.642	0.782

Table (2) shows the arithmetic means, standard deviations, the calculated (t) value and the significance of the differences in the investigated tests between the experimental and control groups in the pre-test

Variables	Tests	Experimental		Control		T value	level Sig	type Sig
		Mean	standard deviation	Mean	standard deviation			
Maximum strength	Ping press for arms	54.123	1.653	50.323	4.321	1.664	0.433	Non sig
	Half leg squat	65.876	1.741	62.761	3.673	2.342	0.897	Non sig
Strength Featured speed	Ping press for arms	12.453	2.432	10.786	1.893	0.546	0.785	Non sig
	Half leg squat	14.132	3.876	12.765	2.731	0.352	0.783	Non sig
Endurance force	Ping press	16.786	4.556	14.876	0.444	0.387	0.459	Non sig
	Half squat	15.674	2.621	13.111	2.876	0.752	0.674	Non sig
Significant at the significance level (0.05) if the error level is less than.(0.05) Degree of freedom.(10=2-6+6)								

Means and tools used in the research:

Observation, tests and measurements, adhesive tape, Casio electronic watch, 4. Iron bar (12), medicine ball (3 kg) and official weightlifting set, weights and barbells (12). Iron discs of different weights.

Tests used:

- The maximum strength of the arms is a bing-press exercise, which is performed once with the maximum load (Mohammed Sobhi Hassanein: 1999)(1)
- The maximum strength of the two legs - squatting - where it is executed once with the maximum load (Mohammed Sobhi Hassanein and Ahmed Kesri Mahani: 2001)(2)
- Strength featured speed for arms Use a 20 kg weight bar for 10 seconds Bend and extend the arms Lie on the back on the bench in quick repetitions (Darwin: 2008) (3).
- Strength Featured speed for the legs Put the weight bar weighing 20 kg on the suspenders and place the bar on the shoulders Flex and extend the legs with the body straight for (10) seconds (Drechsler, 2006)(4).
- Endurance force for the arms Put the weight bar weighing 20 kg on special suspenders on a bench The quad lies on a flat bench so that his legs are also extended on the bench also carrying the bar perpendicular to the chest and then bend and extend the arms until exhaustion of effort (Fiek, SJand, W. Kraemer 1997) (5)
- Endurance force for legs Place a 20-kg barbell on suspenders and carry the bar behind the neck until tired (Stone, U.H.,O. Biyant 2009) (6)

Pre-tests:

The pre-tests were conducted on the sports hall of Al-Kadhimiya Sports Club / Baghdad Governorate on Saturday 5/6/2021.

Exercises used in the research:

Implementation of the exercises began on 8/6/2021 until 7/8/2021.

- The duration of the exercises set in weeks: (8) weeks.
- Total number of training units: (24) training units.
- Number of weekly training units: (3) units.
- Weekly training days: (Sunday - Tuesday - Thursday).
- The training method used: the high-intensity interval training method.

Post-tests:

After completing the implementation of the special exercises within the prescribed period, and then conducting the research tests on 8/10/2021, according to the researcher (Time, place, tools used, and method of conducting the tests).

Statistical methods: The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Presentation, analysis and discussion of the results:

Presentation and analysis of the results of the pre and post-tests in the muscular strength of the lifters in the clean and jerk experimental group and their discussion.

Table (3) Training unit template

week	Training unit	distance in meters	intensity %	Repetitions item)(	Rest time between repetitions and totals
first week	1	- Half squat exercise 100kg -Bing press exercise weight 60 kg -Clean and jerk iron weight 90 kg	%80	2×6 2×6 3×6	Interval rest (1) minutes and rest between the two groups (3) minutes
	2	-Half squat exercise 100 kg weight Bing press exercise weight 40 kg - Exchanging legs in front of behind the barbell on the shoulder, weight 50 kg - Clean and jerk Iron from chest level Weight 80 kg	%85	4× 15 2×20 2×30 3×10	Interval rest (1) minutes and rest between the two groups (3) minutes
	3	-Half squat exercise, weight 40 kg -Bing press exercise weight 30 kg -Pushing the barbell from the chest to the top, weight 60 kg -Clean and jerk iron from chest level weight 60	%80	3×15 2×30 2×15 3×10	Interval rest (1) minutes and rest between the two groups (3) minutes

Table (4) shows the arithmetic means, standard deviations, mean differences, deviations of differences, and the calculated (t) value between the pre and post-tests of the experimental group in the muscle strength of the lifters in Clean and jerk

Variables	Pre-test		Post-test		deviations of differences	T value	level Sig	type Sig
	Mean	standard deviation	Mean	standard deviation				
Ping press for arms	54.123	0.765	60.563	0678	0.567	6.543	0.002	Sig
Half leg squat	65.876	0.345	68.991	0.458	0.786	5.768	0.004	Sig
Ping press for arms	12.453	0.764	13.998	0.675	0.734	7.763	0.003	Sig
Half leg squat	14.132	1.698	15.987	0.623	0.447	7.432	0.002	Sig
endurance force Ping press	16.786	0.456	17.297	0.445	0.871	5.976	0.002	Sig
endurance force Half squat	15.674	0.631	17.897	0.896	0.852	6.786	0.007	Sig
Significant when the significance value ≤ 0.05 under degree of freedom of 10								

Presentation and analysis of the results of the pre and post-tests, the muscle strength of the lifters in the clean and jerk of the control group, and their discussion

Table (5) shows the arithmetic means, standard deviations, mean differences, deviations of differences, and the calculated t-value between the pre and post-tests of the control group in the muscle strength of the lifters in Clean and jerk.

Variables	Pre-test		Post-test		deviations of differences	T value	level Sig	type Sig
	Mean	standard deviation	Mean	standard deviation				
Ping press for arms	50.323	0.675	54.653	0.753	0.765	4.874	0.002	Sig
Half leg squat	62.761	0.783	66.654	0.853	0.643	5.753	0.001	Sig
Ping press for arms	10.786	0.458	11.658	0.675	0.458	7.653	0.000	Sig
Half leg squat	12.765	0.785	13.876	0.878	0.538	6.984	0.000	Sig
endurance force Ping press	14.876	0.456	15.784	0.453	0.645	8.623	0.001	Sig
endurance force Half squat	13.111	0.832	15.873	0.953	0.453	6.883	0.001	Sig
Significant when the significance value ≤ 0.05 under degree of freedom of 10								

Presentation, analysis and discussion of the results of the post-tests in the muscle strength of the lifters in clean and jerk under research in the control and experimental groups

Table (6) shows the arithmetic means, standard deviations, and (t) values calculated between the post-tests in muscle strength of the clean and jerk lifters in the two experimental and control groups.

Variables	Experimental		Control		T value	level Sig	type Sig
	Mean	standard deviation	Mean	standard deviation			
Ping press for arms	64.441	0.895	58.711	0.443	7.443	0.002	Sig
Half leg squat	73.785	0.764	69.844	0.785	9.675	0.003	Sig
Ping press for arms	15.112	0.632	13.976	0.674	4.542	0.000	Sig
Half leg squat	17.564	0.776	15.653	0.832	7.874	0.000	Sig
endurance force Ping press	18.994	0.843	16.986	0.453	4.487	0.001	Sig
endurance force Half squat	20.861	0.631	17.432	0.831	9.672	0.002	Sig
Significant when the significance value ≤ 0.05 under degree of freedom of 12							

Discuss the results:

Through the presentation and analysis of the results obtained by the researcher for the variables of muscular strength, the researcher reached a significant development in the results of the post-test for the pre-test. It is noted that the maximum muscular strength of the muscles of the arms and legs is that the training program using exercises of repeated intensity ensures the performance of weight training in repetitions until the exhaustion of effort in The training groups, even fatigue, have worked to develop the maximum strength of the arms and legs, as this type of training takes place in the groups and muscles by involving the largest number of motor units and recruiting them in a way that makes the muscles adapt to both demolition and construction operations and so that construction operations are greater than demolition And thus an increase in the physiological section of the muscle, which means an increase in its strength (Carter. J. & Achland. T 1999)[(7)] , That is, the maximum strength is the maximum strength that the nervous muscular system can produce in the event of maximum voluntary contraction and is considered the decisive factor in sports activities that depend on very high resistance. As for the strength featured speed for the muscles of the arms and legs, the researcher believes that frequent intensity exercises that use weights in the physical numbers to develop the strength featured speed positively affect the development of these weightlifting variables on the importance of using different weights exercises to achieve a significant increase in the level of strength featured speed for the two legs. The use of standardized training programs using weights has led to the highest level of strength featured speed, that is, the ability to resist a specific load with a rapid muscular contraction (Mutasem Ghatouk: 2009)[(9)]. When the training program was applied, it generally led to the development of endurance force, in addition to the development of maximum strength and strength featured speed. These repetitions have been characterized by a relatively long continuity

that strength capabilities can be integrated in addition by focusing on solving other duties of sports training when the intensity of the load is sufficiently large, and these results support the principle of diversification as training that contains a sufficient level in intensity and volume, in addition, To diversify between them in the excitation of the nervous system is considered a successful method in developing endurance force as well as maximum strength and strength featured speed, and this means the necessity of performing exercises according to their importance and their relationship to the physical goal for which the exercise was chosen (Dunn, WH., EH Soudek, & J. Gieek: 1994.)[9] .

Conclusions:

- Repetitive intensity training had a positive effect on developing muscular strength for lifters in clean and jerk weightlifting for young people.
- The research showed the effectiveness of the exercises of frequent intensity according to the performance that were used within the vocabulary of the training program in developing muscular strength.

Recommendations:

- Repetitive training and its different methods can be adopted to develop types of muscle strength for lifters in Clean and Jerk by lifting weights.
- Conducting similar studies and on other categories of lifters in Clean and jerk by lifting weights.

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